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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/994,983	11/26/2001	Gernot M. Hirse	22750/508	2845

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EXAMINER

GRAHAM, GARY K

ART UNIT	PAPER NUMBER
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1744

DATE MAILED: 03/29/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/994,983

Applicant(s)

HIRSE, GERNOT M.

Examiner

Gary K Graham

Art Unit

1744

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 22 December 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 11-30 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 18, 20, 21 and 29 is/are allowed.
- 6) ☒ Claim(s) 11-17, 19, 22-28 and 30 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☒ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 02112004.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Priority

Acknowledgment is made of applicant's claim for foreign priority based on an application filed in Germany on 25 November 2000. It is noted, however, that applicant has not filed a certified copy of the German application as required by 35 U.S.C. 119(b). While applicant states that the certified copy of the German application has been filed with the amendment of 22 December 2003, no such copy appears.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 11, 13-16, 22, 23, 25-27 and 30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Vaughn '744 in view of Altrock '025.

The patent to Vaughn discloses a floor mop (figs. 14-19) substantially as is claimed, including a pair of carrier plates (66) pivotally connected to a center piece (62), a mop handle (20) coupled with the center piece, a wringer slide (46) mounted on said handle in non-rotatable fashion by slot/pin (71,72) and said wringer slide having arms (49) extending therefrom with rollers (50) thereon. Said rollers are adapted to engage rising guide surfaces (34') provided on the back of said carrier plates.

The patent to Vaughn discloses all of the above recited subject matter with the exception of the handle being coupled with the center piece via a cardan or universal joint.

The patent to Altrock discloses a wringer mop (figs. 1,5) with pivotally mounted carrier plates (19,20) including guide surfaces (32,33) on backs thereof which are engaged by roller wheel elements (28,29) provided on arms of operating element (3). A universal joint is provided between the mop handle (1) and the mop head (2). Such joint is established by swivel element (4) provided between the handle (1) and the working element (2). Altrock employs the universal joint to enable increased maneuverability of the mop by a user. The swivel element is elongated to define a longitudinal axis therealong and has an axle portion (8) to define a loop axis transverse to the longitudinal axis. The handle (1) is pivotally coupled to the portion (8) to allow the handle to move about the loop axis while the combined handle/swivel element is pivotally moveable with respect to the working element (2) about the longitudinal axis. The swivel element can pivot side to side with respect to the working element (2). Such movement about these two transverse axes together provides for the universal connection allowing the handle to move in more than a single plane. Note that the rollers (28,29) go from carrier plate engagement (fig.5) to disengagement

form the carrier plates (fig.6). The rollers must be spaced from the carrier plates as shown in figure 6 to enable the increased mobility provided by the universal connection.

It would have been obvious to one of skill in the art to provide the mop of Vaughn with a universal joint between the handle and the working element, which in Vaughn's case would include the center piece, as clearly suggested by Altrock, to enable increased maneuverability of the mop working element with respect to the handle. Altrock teaches the concept of universal connection between working element and handle. It appears such could be employed in Vaughn. As clearly suggested by Altrock, the rollers of Vaughn must be enabled to disengage from the carrier plates to provide for the increased mobility the universal joint provides.

Claims 12, 19 and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Vaughn '744 in view of Altrock '025 as applied to claim 11 above, and further in view of Richardson et al '783.

The patents to Vaughn and Altrock disclose all of the above recited subject matter with the exception of a spring device to move the carrier plates to an extended position and ends of the wringer arms being brought into direct contact with the guide surfaces on the back of the carrier plates.

The patent to Richardson discloses a wringer floor mop that employs a spring device (56) to move the carrier plates (44,46) to their extended position. Richardson also discloses the ends of wringer arms (64,66) directly engaging the carrier plates (44,46).

It would have been obvious to one of skill in the art to provide the mop of Vaughn with springs, as clearly suggested by Richardson, to help motivate the carrier plates to their extended position after wringing. Use of return springs is well known.

With respect to claim 19, it would have been obvious to one of skill in the art to eliminate the roller wheels of Vaughn and have the free ends of the wringer arms engage the back of the carrier plate directly, as clearly suggested by Richardson, to eliminate such element and thus reduce the cost of the mop structure. Further, elimination of an element and its associated function is an obvious expedient if the remain elements perform the same functions as before. Obviously, the roller wheels are provided to reduce friction between the arms and the carrier plate. Merely eliminating such does not appear of patentable significance.

Additionally, with respect to claim 19, the rollers are considered to define convex surfaces.

Claims 17 and 28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Vaughn '744 in view of Altrock '025 as applied to claims 11, 15, 22, 26 above, and further in view of Chiang '084.

The patents to Vaughn and Altrock disclose all of the above recited subject matter with the exception of the roller element being a ball.

The patent to Chiang discloses an apparatus (fig. 9) wherein moving support or contact elements (102) can be in either roller ball or roller wheel form (not shown but disclosed). Attention is directed to column 4, lines 5-8. Note that Chiang is only relied upon for the teaching of using either roller balls or roller wheels as supporting contact elements.

While Vaughn does employ roller wheels to contact the guide surfaces on the backs of the carrier plates, use of a roller ball would be well within that which one of skill in the art would find obvious. Roller balls and roller wheels are recognized art equivalent structures when providing movable contact between surfaces. Further, as set forth above, Chiang suggests that roller balls and roller wheels are well substituted for one another. It would have been obvious to one of skill in the art to provide roller balls instead of a roller wheels for the mop of Vaughn as a mere choice of art recognized contact structures and as clearly suggested by Chiang, lacking any criticality of such structure.

Response to Arguments

Applicant's arguments filed 22 December 2003 have been fully considered but they are not fully persuasive. While applicant's amendment has overcome the rejection of claims as being anticipated by the Norway patent, the rejection of claims by the Vaughn/Altrock combination is still deemed appropriate.

Applicant's arguments with respect to the rejection of claims as being unpatentable over Vaughn in view of Altrock are noted but not persuasive. The thrust of applicant's arguments is that Altrock does not disclose any rollers or the presence of arms that move into and out of engagement with the carrier plates and thus the teachings of Altrock would not cure the deficiencies of Vaughn. Such is not persuasive. As set forth in the above rejection, the mop of Altrock does employ rollers (28,29) on arms of the actuator slide (3). The arms are defined by a

pair of slots (27) provided in said actuator slide (see figs. 4,5). The rollers do move into and out of engagement with the carrier plates (19,20). Applicant's attention is directed to figures 5 and 6, wherein it can be seen that the rollers (28,29) go from being in engagement with the carrier plates (fig.5) to not being in engagement with carrier plates (fig.6). Thus, as set forth above, providing the mop of Vaughn with a universal joint, as suggested by Altrock, to increase maneuverability of the working element would provide for the compression rollers coming into and out of engagement with the carrier plates. If the rollers did not come out of engagement with the carrier plates as taught by Altrock, the universal mobility could not be achieved.

Allowable Subject Matter

Claims 18, 20, 21 and 29 are allowed.

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

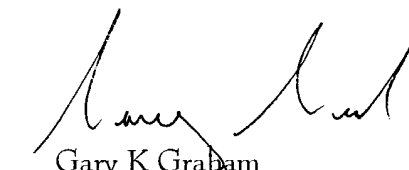
A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory

period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Gary K Graham whose telephone number is 571-272-1274. The examiner can normally be reached on Tuesday to Friday (6:30-4:00).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert Warden can be reached on 571-272-1281. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Gary K Graham
Primary Examiner
Art Unit 1744